HCAL Dynamic Range

John Haggerty *Brookhaven National Laboratory*



HCAL max energy deposit

- Used /gpfs02/phenix/prod/sPHENIX/preCDR/pro.1beta.5/single_particle/spacal2d/fieldmap
- Used ntp_tower for hcalin and hcalout
- "e"
- Undid Jin's constant correction: 1./0.0305 for outer Hcal and 1./0.067 for the inner Hcal
- A MIP traversing a tower orthogonally (not a situation that occurs in reality) is 5*1.4 MeV = 7 MeV



Inner HCAL Tower (50 GeV proton)

10⁵ $-\eta = 0$ $-\eta = 0.9$ 10⁴ 10³ 10 0.6 0.8 1.2 1.4 1.6 1.8 E (GeV)

Outer HCAL Tower (50 GeV proton)



